

# ARIZONA SILVER BELT.

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## THE MINING FIELD.

### A Brief Portrayal of the Mining Industry of Arizona and the Great Southwest.

#### MINE AND MILL---SHAFT, CHUTE AND TUNNEL.

PROGRESS BEING MADE BY PROSPECTOR AND PROMOTER--THE MINING INDUSTRY THROUGHOUT THE GLOBE COPPER BELT--A WEEKLY RESUME OF TRANSPIRING EVENTS TERSELY TOLD.

##### LOCAL MINING NOTES

J. F. Donnellan is in from Rye, where he is developing the old Dougherty & Boyd mines.

The United Globe mines are shipping five cars of ore daily to El Paso. The force of miners has been increased.

L. A. Snyder, ore buyer for the El Paso Smelting Works, is in town this week. His company is receiving about all the ore they can handle at their El Paso and Silver City works.

John R. Cessna has been appointed superintendent of the Pinal Mining company, to succeed A. C. Purdy, who will now give his attention to the development of his own claims in this district.

Messrs. Gilroy and Cooper, employees of the Ray company, in the mercantile department, were in Globe last Saturday and Sunday. Mr. Gilroy came here to hire machine men to run Barleigh drills.

N. S. Berry was here for several days last week, in consultation with Chauncey Gunn, superintendent of the Copper Hill mines. We understand that development work is progressing satisfactorily and ore shipments to El Paso continue as usual.

J. S. Matthews, who was in from Gold Hill last Sunday, informed us that he had struck it rich in the Trail mine, owned by Wint, House and himself. The ore is red oxide and the vein is 40 feet wide. The Lime Point, an extension, owned by Matthews & Broyles, also shows up fine.

J. H. Thompson reports a big strike of sulphide ore in the Mineral creek property owned by Dr. B. G. Fox, O. N. Cresswell and himself. The ore was encountered at a depth of 14 feet (water level) and the bottom of the shaft, 6 feet wide, is all ore. The claims are located south of the Cole & Goodwin mines.

The Old Dominion Copper company has received a No. 7 Connersville blower, and is expecting two new furnaces this week. Coke continues to arrive freely. The bins were long since filled and every available space around the smelter is being utilized to pile coke. The furnace in blast is making a large output of copper.

McNaughton & Neal have made an important strike of sulphide ore on one of their claims, situated four miles above the Government Springs, on the old government trail, and about 10 miles from Globe. The ore was struck at water level, 20 feet from the surface. R. C. Goodwin is interested in adjoining claims.

R. C. Goodwin and Mr. McNaughton recently located some claims on Mineral creek, 16 miles from Globe, on which they found a notice of location dated 1882 and signed by George Bird and H. Winterberger. The notice was well preserved and the writing eligible. The claim was formally known as the Chilson mine.

Burt H. Collins returned on Monday night from Stanton, Ariz., where the Octave Gold Mining company, in which he is largely interested, is operating. The 40-stamp mill, which the company is erecting, is nearing completion. He went out Tuesday morning to the Cole & Goodwin mines, which he has bonded. Mr. Collins is much encouraged by the work done on this property, and there is reason to believe that a big mine will be opened. The shaft is going down through a body of sulphide ore.

##### Territorial and General.

The Verde Queen smelter at Jerome has been blown in.

J. H. Rise has started up a sampling mill on ore from the big dyke on the President mine, Yavapai county.

The Congress Gold Mining company will shortly put in a pipe line from Date creek to its mill at Congress. The line will be about six miles long.

An important strike of sulphide and carbonate ores was made last week, at a depth of 165 feet, in the La Royal claim of the Helvetia Copper company.

Every mine developed adds just so much business prosperity to the community and should secure liberal encouragement, says the Mineral Wealth.

J. L. Gironx, general manager of the United Verde company at Jerome, visited Carbonera, Sonora, last week, near which place he has large mining interests.

The Mogolion, N. M., correspondent of the Silver City Enterprise says: From present outlook there will be within the next six months seventy-five stamps, or more, dropping on an average of \$22 ore.

A strike of free gold was reported last week to have been made in the 100-foot level of the Senator mine, Yavapai county, Arizona; also high grade ore in the 200-foot level. The Courier says some of the quartz shows free gold as large as peas.

The production of copper by United States producing mines for April was 24,067 tons, against 23,283 tons for March and 19,954 tons for April, 1899. The exports were 12,764 tons, against 20,148 tons for March and 7,423 tons for April last year. The European production for April was 7,352 tons, against 7,544 tons for March and 7,911 tons for April, 1899.

The number of abandoned mines which will be reopened the present season in the mining states of the west, says the American Mining News, furnishes a convincing object lesson of the advances which have been made in the science of mining and ore treatment. Mines which were abandoned a few years ago after the oxidized ore bodies were exhausted, because the refractory ores could not then be treated at a profit, are now being reopened and operated with a handsome profit.

The Star says: The King of Arizona company is making preparations to sink another well at the mine. There are three wells in operation now. The depth of these wells is a thousand feet. The output of the mines has averaged about \$50,000 a month, but it is expected that with new machinery better adapted for the working of the ore that nearly double that amount can be produced. The King is one of Arizona's best mines and will no doubt be in the near future reckoned among the great gold producers.

Houghton, Michigan, advises state that the influx of foreigners to the copper district is unprecedentedly large this season. The Finns lead in numbers, owing to the rigorous action of the czar's government, which is depriving the grand duchy of Finland of rights guaranteed in 1809. The Finns are reaching here at the rate of several carloads per week. The immigration from Austria and Italy is also unusually large, while from other countries the influx is about normal. From 200 to 500 immigrants are reaching the copper district weekly.

The time when ore of a low grade was piled on the dump, while higher grade rock was sent to the smelter, will soon be looked back on by operators with regret for the great values neglected or entirely lost through the lack of scientific treatment. Today mining is a more exact science than ever before, and the miner who sticks to old-fashioned methods of treatment is justly regarded as a back number. The prospector is much more likely to discover a large body of low grade ore than a small vein of sensational value, and if he comes across a deposit of more than usual width he can count upon it for an indefinite period.

One result of this unusual movement to the north will be the determination of the extent of the gold fields along the Bering sea coast. The more enthusiastic predict that in size and richness they will be found to equal those of any other auriferous section of the world. Thousands will be on the ground, and there are few streams which will remain unexplored. Many will no doubt return with empty hands, but if the country approaches what the careful and conservative predict for it, the developments of the coming season will be substantial, if not sensational, resulting in a very marked increase to the wealth of the world.

The American Mining News of New York, May 12, says: Justice Fitzgerald in the supreme court handed down a decision in which he directs that the testimony of a number of witnesses be taken in Arizona on behalf of G. A.

Treadwell in Treadwell's suit against the United Verde Copper company, ex-Senator Wm. A. Clark and others. Mr. Treadwell's suit is for an injunction to restrain the reorganization of the United Verde Copper company. He claims that the affairs of the company have been mismanaged, and the testimony of the witnesses taken in Arizona will prove that charge.

Several very rich finds of copper are reported to have been made recently in the Tonto Basin country, in the Mazatzal district, between the Barnhart mountain and the North Peak, says the Journal-Miner. As this is a large district extending for twenty miles in length and mineralized it is only a question of time when the entire district will be alive with prospectors and many valuable finds will be made. There are now several promising groups in the district, among which are the Copper Butte, White House, Mazatzal, White Iron, Eisenhour, Craig-Robertson and Copper Belt.

The Paris, France, correspondent of the Engineering & Mining Journal says: The copper shares continue to be the great attraction. With all the fluctuations of the metal its price is still high. A few pessimists attributing this to the much discussed American "trust," but the better informed see very clearly that most European manufacturers have allowed their stocks to run down to a very low point in the hope of forcing lower prices. The time has come when they must purchase supplies, and this is shown by the very large shipments from your side. Our buying must be considerable for a time, since the metal is urgently needed.

It has been given out, says the Arizona correspondent of the Los Angeles Herald, that the main shaft of the Congress mine will be continued down to a depth of 5,000 feet, almost doubling the present measurement. The large force of men now engaged by the company will be increased twofold and sixty stamps will be added to the forty-stamp mill. Additions also will be made to the cyanide plant of 160 tons capacity, which treats the tailings of the Congress mine at a profit of \$5 to the ton. The determination to make such extensive improvements was formed after several months of prospecting with diamond drills, and after new and extensive bodies of ore richer than anything taken out before were found in the lower workings.

Colonel Alex O. Brodie, who is in the city from his Crown Point mine, reports a lively interest in mining interests in that vicinity. The Crown Point is exceeding all expectations in the matter of ore, though the water supply is somewhat limited. The mill, which was recently erected, gives good satisfaction, only that the limited water supply prevents a steady run. The water used is pumped from the mine and sinking continues in the hope of developing the supply. The search for water, however, brings to view constantly new ore bodies, a fact that in itself is very gratifying, for though a big water supply at the mine is very desirable it is not an absolute necessity. The Hassayampa river is not very far distant and if water is not found at the mine it can be pumped and piped from the river, though it would involve an expense Mr. Brodie believes will be avoided. Republican.

The Pittsburg-Arizona Gold and Copper company has developed a group of claims three-quarters of a mile from the one time prosperous smelting town of Charleston, with the result of an unearthing of mineral that has astonished all those who have lived or traveled in that vicinity, says the Cochise Review. The first of the claims, the Porto Rico, is situated three-quarters of a mile in an easterly direction from Charleston. The Porto Rico contains ore, samples of which showing free gold in a porphyritic and quartz formation, are so rich as to cause surprise among all experienced mining men who have seen them. The San Juan, which has received the most development of any claims, has yielded an ore pile of no mean dimensions, running high in gold, silver and lead. The lead occurs both in sand and solid carbonates. A recent shipment of 620 pounds of this ore caused quite a sensation among the mining men who examined it.

The Independence mine, on the south slope of Battle Creek mountain, in the Cripple Creek district, Colorado, commonly called "Stratton's Independence," is one of the most wonderful gold mines which has ever been discovered. It was located by the discoverer, W. S. Stratton, on July 4th, 1891. Cripple Creek district at that time was a cattle range and had been ridden over by cowboys and tramped over by prospectors for years. For the first three years after its discovery the mine produced \$1,831,968, and up to the end of 1899 it has yielded more than \$5,000,000, with profits of \$2,890,164, the general average value of the

ore being \$92 per ton, and it is estimated that the ore reserves at the different levels in the mines contain more than 80,000,000. The property now comprises fourteen claims covering 110 acres, of which but thirty acres are being worked. During April the yield from the mines averaged about \$7,500 per day. The mines have passed into the hands of a company known as Stratton's Independence Limited, with headquarters in London. Its capitalization is \$1,100,000 or \$5,500,000, divided into 1,100,000 shares with a par value of \$1 each, of which W. Stratton retains the majority. The property was conveyed to the company by Mr. Stratton for a consideration of \$10,000,000, part stock and part cash. The final cash payment of \$4,000,000 was on April 27th.

The annual meeting of stockholders of the Spenazuma Gold Mining and Milling company of Arizona, was held on May 8 at the offices of the company, 20 Broad street New York. The attendance was large, and the reports of development during the year gave great satisfaction, and met with unanimous approval, says the American Mining News. Schuyler S. Moore, first vice president and general manager, read a letter from Prof. George A. Treadwell, who recently made an examination of the Spenazuma properties, in which he says: "I am much pleased with my trip to your mines in the Clark district and at Spenazuma. I think the future outlook of your mines is good, and the mines deserve liberal development." Acting upon the advice of Professor Treadwell, who is famous as a successful developer of mining properties, the management of the Spenazuma is making arrangements to erect reduction works on its claims in the Clark district. The true character of the ores is now known, the mode of treatment determined, and the company in a position to mine ore enough to keep their works in continual operation. The following gentlemen were elected directors for the present year: William R. Whitehead, Trenton, N. J.; Judge Dwight Loomis, Hartford, Conn.; Schuyler S. Moore, William G. Leland, Walter S. Logan, John P. Marsh, Carl Duryea, Albert G. Negley, John S. Manfull, C. Henry Mosher, New York, N. Y.; George L. Shakespeare, Rodney G. Clarke, M. F. Scarborough, Denning, N. M.; J. M. Johnston, T. A. Fincal, Albuquerque, N. M. The new officers are William R. Whitehead, president; Schuyler S. Moore, first vice president; John S. Manfull, treasurer; C. Henry Mosher, secretary; Logan, Demond & Harby, attorneys.

For monumental liars commend us to the litigants in the Cobre Grande case. It has become a cause celebre. About a month ago it was given out by the Greene faction that the supreme court of Mexico had rendered a decision in favor of Mr. Greene's company, thus settling a long and costly fight in the courts of the United States and Mexico, and that the Mexican federal troops had put Mr. Greene in possession of the property. Now comes Mr. L. H. Chalmers, attorney for the "other fellows," and through the Phoenix Republican, gives out the following: "I was surprised from time to time to read in American papers that the Greene people were ultimately victorious and the case was at an end. I may now say that the situation is as follows: We brought suit in the court of Arizpe for the possession of the mine and a decree was ordered in our favor, whereupon Mr. Greene took a writ of amparo. A writ of amparo corresponds in a general way to our writ of habeas corpus, and may be sued out at any stage of a legal proceeding, the person praying for it averring that he is being deprived of his constitutional rights. In this case, after the decree giving us possession of the Cobre Grande had been issued, Mr. Greene obtained a writ of amparo, having sworn that the judge of the court at Arizpe was in collusion with the Cobre Grande company. This writ has the effect of interrupting any legal proceeding which may be in progress and goes directly to the supreme court of the republic. The writ in this case has been fully heard and dismissed by the unanimous voice of the supreme court, whose members say that on the showing of Mr. Melgarejo they are surprised that the Greene people had the audacity to ask for the writ. It is the belief of the judges of the supreme court and of the court of Arizpe that Mr. Greene and his associates were endeavoring to deprive the Cobre Grande company of its rights. The company is left, by this decision, to proceed with litigation in the court at Arizpe and it is safe to say that only a short time will intervene before the order already issued will be enforced. The course taken by Mr. Greene and his party was a last desperate stand on technicalities and the Mexican courts have expressed themselves as convinced that they have no rights in the property and have so decided."

## RAY COPPER MINES

### Development of a Great Mining Property in the Mineral Creek District.

#### DESCRIPTION OF THE MINES AND PLANT.

AN ORE BODY OF IMMENSE PROPORTIONS THAT IS BEING SYSTEMATICALLY OPENED. THE FINE CONCENTRATING MILL AND OTHER MACHINERY WHICH CONSTITUTES A MODEL PLANT.

The Ray Copper Mines, Limited, was organized in London, England, in June, 1899, to operate the Ray, Innis and Taylor groups of mines, situated on Mineral creek, Pinal county, Arizona, which had been prospected, under bond, by the Globe Minerals Exploration Co., Ltd., under the direction of Mr. Alexander Hill, who has the general supervision of the company's affairs. The property comprises 52 claims, and is distant from Red Rock on the Southern Pacific railroad about 45 miles, and some 20 miles south of Globe. The capital stock of the company is \$200,000, divided into shares of the par value of \$1 each.

The officers in charge are: Reginald Truman, general manager; C. A. Heberlein, mine superintendent; and P. A. Wise, general manager of the stores at Ray and Kelvin.

The Ray company has made very substantial improvements at Ray and at Kelvin during the past ten months, and the exploitation of the mines has developed vast ore bodies. Kavanagh & Gill, who were the contractors for the development of the Ray group of mines, completed their work on April 22. They carried the shaft down 67 feet and enlarged it upward for 151 feet, making it a 3-compartment shaft from the bottom, 400 feet deep, to the tunnel level through which the ore is discharged. They also did about 650 feet of drifting. Ray ore has been found in shafts sunk at considerable distances apart and has been penetrated in the underground workings, revealing the existence of a wide ore zone. The cross-cut tunnel on the 300 level is in pay ore its entire length of 350 feet and the limit of the ore body has not been reached. The Arizona Blade says: "The prospect work on the Ray group has revealed an ore body from six to eight hundred feet in width and over one mile in length, and the deepest shafts have not yet gone through it. And it is believed that this entire mammoth body will average from five to six per cent copper. From this some idea of the future possibilities of this great property as a producer can be formed."

The company is now working a force of about 30 miners shaping up the mine, but intends to have all development and stoping done by contract in the future.

The ore from the Ray mine passes through a Gates crusher of 400 tons capacity, at the mouth of the tunnel, where it is loaded into cars and conveyed over the 30-inch gauge railroad to the mill, located at Kelvin, 6 miles below on the Gila river. A train is run of eight cars, of 10 tons capacity each. The first ore was sent down to the mill on the 14th inst. The railroad is a fine piece of engineering, the building of which involved some difficult and expensive work. There are a number of heavy cuts and sharp curves on the road, but an easy grade is maintained to the river. Only one engine is in use on the road at present, but another has been ordered.

The new concentrating mill, located at Kelvin, has been completed with the exception of a few minor details, and, it is expected, will be in operation by June 1. Its capacity is 250 tons of ore daily, and it is without doubt one of the most complete, up-to-date mills in the west. It is fitted with Cornish rolls, 12 iron jigs, two Chilean mills, of 85 tons capacity each for crushing the tailings from the jigs, and 20 Hallett tables. An interesting contrivance is the tube mill, an iron cylinder about 12 feet long and four feet in diameter, half filled with Norway flint pebbles ranging in size from a hen's egg to a quail's egg. The middlings from the Hallett tables are conveyed to the tube mill by a sand pump and ground to the size of 60 mesh, and then returned to the tables where all values are extracted. The water supply for the works comes from a large well, the water being raised by a Smith & Vail pump of great size.

The company has also very complete machine and blacksmith shops, equipped with machinery and tools to do all kinds of work that may be necessary. All the machinery in the company's works is driven by Weber gasoline engines of an aggregate of 400 h. p.

Two large adobe buildings at Kelvin contain the offices, club rooms, baths, etc., all of which are nicely fitted up. The company conducts a mercantile business at Kelvin and at Ray, carrying large stocks of goods at both places. A warehouse has also been erected at Red Rock, and a telephone line connects Red Rock with Kelvin.

The population of Kelvin is about 800 and there are upwards of 500 people at Ray.

The freight contract between Red Rock and Kelvin has been let to Mr. Gamble, who has discarded the traction engine, and uses wagons exclusively for moving the great amount of freight received by the company.

The need of rail communication with the Southern Pacific has long been apparent, and will become urgent when the company's works get under full operation. A party of Southern Pacific officials visited Mineral creek not long since, and it is expected that construction work will be begun before many months. Several routes have been suggested—from Casa Grande via Florence, from Red Rock, and from Tucson, or some point east of there, via the coal fields and Indioville.

The operations of the Ray company have brought Mineral creek into prominent notice and has stimulated prospecting and development all over the district, which has demonstrated that it is one of the richest mineral fields in Arizona, and will in time become a great producer. On Upper Mineral creek and its tributaries, adjacent to the Globe district, important discoveries of sulphide ores have been made and a number of very promising claims are being developed, which will contribute to the growth and business prosperity of Globe.

Mr. I. E. Solomon and his son Charley, came over from Solomonville, Thursday and the case of the U. S. vs. Solomon was settled by the defendant paying stipulation. This was another wood case. Florence Blade.

The eastern copper market remains dull and quiet. Lake is quoted at 16½c; electrolytic, 16½c-16½c; in cathodes at 16½c-16½c; casting copper, 16½c. Statistics for the first half of May show a decrease in the visible supplies by 400 tons.

L. W. Blinn and E. T. Stinson, the wealthy lumbermen, Warren Gillespie, the Los Angeles banker, and a few others have organized the Copper Bullion Mining company for the development of a number of recently acquired mining claims in the Dragoon mountains.

The Mohave county Mineral Wealth says: The Turquoise Queen, owned by Fred. Brawn and Coolidge, has been bonded to J. C. Stewart for \$8,000. This turquoise mine is situated near the Colorado river and was worked during the stone age. The gems are of the very first water.

The Val Verde Copper company is working on the Columbia and Lone Cedar properties, two copper prospects near the Hidden Treasure mine. On the former they have let a contract on a tunnel which is already in nearly 300 feet—they expect to cut the ledge during the next 50 feet. On the latter a contract has been given for sinking a vertical shaft. Courier.

Good reports come from the Jubilee mine, located a short distance west of Prescott, says the Courier. There are 60 tons of ore on the dump which gives an assay value of \$35 a ton. This ore was taken mostly from a level at the depth of 205 feet, where there is a well defined vein of such ore, three feet wide. The property belongs to Merchant Sam Hill, who is pushing development work upon it.

The Engineering & Mining Journal says: A further reduction in the price of lead has been made by the American Smelting & Refining company, and we now quote New York 3 1/2 @ 4c, St. Louis 3.80 @ 3.85c. The price of this article has thus declined \$14 per ton in the last two weeks. Different reasons have been given as the cause of this rapid decline, but we believe the fact that production is in excess of consumption in a great measure explains the movement.